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CENTRAL INTELLIGENCE AGENCY
INFORMATION REPORT

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COUNTRY USSR

SUBJECT Evaluation of Soviet Journal "Radio"/Comment on
Thermo-Couple-Generators

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1. The Soviet magazine "Radio" deals chiefly with explanations of radio-communications systems, components, construction of homemade receivers, maintenance and trouble-shooting. The style of the magazine is very popular and it is written at a technical level that will be understood by radio amateurs, village radio technicians, radio networks technicians and P.A.S. technicians.

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2. One of the most interesting articles [redacted] appeared on page 24 of the No. 4, 1954 issue, which is concerned with thermocouple-generators to supply energy for radio receivers in areas where no line or electro-generators are available.

3. In substance, the generator described consists of thermocouple elements mounted around a glass petroleum-lamp which acts as the source of heat. Cooling ribs around the elements act as heat-sink. The active materials are of semiconductor type including some sulphides, oxides and intermetallic alloys.

4. The efficiency coefficient of such thermocouples is of the order of several per cent compared to fraction of one per cent for pure metals. The generator pictured in this article supplies 2V, 2 amp for vibrator plate supply / 2V, .5 amp / 1.2V, .36 amp. There is an indication that industrial production methods are going to be developed.

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5. [redacted] similar devices have been under consideration in the US from time to time [redacted] the development of this thermocouple-generator is of considerable importance, particularly for electrical communications in areas remote from power sources. Assuming that this generator is in widespread use, a critical component would be the vibrator used with the generator. This would use techniques similar to those used in the US in making vibrators for the power supplies of automobile radios.

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